What is Claimed is:

1.   A method of generating a radio frequency signal that represents a sequence of information bits, the method comprising:

generating a resultant baseband signal by selectively generating either a non-distorted complex-valued baseband signal or a distorted complex-valued baseband signal, wherein selective generation is based upon values of information bits in the sequence of information bits; and

generating the radio frequency signal from the resultant baseband signal,

wherein for any given sequence of information bits represented by the distorted complex-valued baseband signal, the distorted complex-valued baseband signal deviates from a reference baseband signal corresponding to the given sequence of information bits.

2.   The method of claim 1, wherein for any given sequence of information bits represented by the distorted complex-valued baseband signal:

the given sequence of information bits comprises a first group of information bits and a second group of information bits;

the distorted complex-valued baseband signal comprises a distorted complex-valued signal point that represents the first group of the given sequence of information bits;

the reference baseband signal corresponding to the given sequence of information bits comprises a reference complex-valued signal point that represents the first group of the given sequence of information bits; and

the distorted complex-valued signal point is different from the reference complex-valued signal point.

3.   The method of claim 2, wherein the distorted complex-valued signal point differs from the reference complex-valued signal point by a predetermined complex-valued distortion amount.

4.   The method of claim 2, wherein generating the distorted complex-valued
5   baseband signal comprises:

generating a preliminary complex-valued baseband signal that comprises the reference complex-valued signal point; and

modifying the preliminary complex-valued baseband signal to form the distorted complex-valued baseband signal, comprising adding a predetermined
10   complex-valued distortion amount to the reference complex-valued signal point to generate the distorted complex-valued signal point.

5.   The method of claim 4, wherein the predetermined complex-valued distortion amount is obtained from a lookup table.

6.   The method of claim 1, further comprising:
15   for any given sequence of information bits represented by the distorted complex-valued baseband signal, generating distorted amplitude and phase signals from the resultant baseband signal,

wherein at least one of the distorted amplitude and phase signals has a lower bandwidth than a corresponding bandwidth of reference amplitude and phase
20   signals generated from the reference baseband signal corresponding to the given sequence of information bits.

7.   The method of claim 1, wherein said method is implemented in an M-QPSK architecture or an M-QAM architecture.

8.   The method of claim 1, wherein generating the radio frequency signal from the resultant baseband signal comprises:

generating polar phase and amplitude signals from the resultant baseband signal; and

5   generating the radio frequency signal from the polar phase and amplitude signals.

9.   The method of claim 1, wherein for any given sequence of information bits represented by the distorted complex-valued baseband signal:

the given sequence of information bits comprises a first group of

10   information bits and a second group of information bits;

the distorted complex-valued baseband signal comprises:

a first complex-valued signal point that represents the first group of the given sequence of information bits;

a second complex-valued signal point that represents the second

15   group of the given sequence of information bits; and

one or more distorted trajectory complex-valued signal points in between the first complex-valued signal point and the second complex-valued signal point;

the reference baseband signal corresponding to the given sequence of

20   information bits comprises:

a first reference complex-valued signal point that represents the first group of information bits;

a second reference complex-valued signal point that represents the second group of information bits; and

25   one or more complex-valued reference trajectory signal points in between the first reference complex-valued signal point and the second reference complex-valued signal point;

the first complex-valued signal point is equal to the first reference complex-valued signal point;

the second complex-valued signal point is equal to the second reference complex-valued signal point; and

5   at least one of the distorted trajectory complex-valued signal points is different from a corresponding one of the reference trajectory complex-valued signal points.

10.   The method of claim 9, wherein the at least one of the distorted trajectory complex-valued signal points differs from the corresponding one of the reference

10   trajectory complex-valued signal points by a predetermined complex-valued distortion amount.

11.   The method of claim 9, wherein generating the distorted complex-valued baseband signal comprises selecting a distorted trajectory comprising the at least one of the distorted trajectory complex-valued signal points from a lookup table.

15   12.   The method of claim 9, wherein generating the distorted complex-valued baseband signal comprises:

generating a preliminary complex-valued baseband signal that comprises the first reference complex-valued signal point, the second reference complex-valued signal point, and at least one non-distorted trajectory complex-valued signal

20   point; and

modifying the preliminary complex-valued baseband signal, comprising adding a predetermined complex-valued distortion amount to the at least one non-distorted trajectory complex-valued signal point to generate said at least one distorted trajectory complex-valued signal point.

13. The method of claim 12, wherein the predetermined complex-valued distortion amount is obtained from a lookup table.

14. An apparatus for generating a radio frequency signal, comprising:

logic that generates a resultant baseband signal by selectively generating

5 either a non-distorted complex-valued baseband signal or a distorted complex-valued baseband signal, wherein selective generation is based upon values of information bits in the sequence of information bits; and

logic that generates the radio frequency signal from the resultant baseband signal,

10 wherein for any given sequence of information bits represented by the distorted complex-valued baseband signal, the distorted complex-valued baseband signal deviates from a reference baseband signal corresponding to the given sequence of information bits.

15. The apparatus of claim 14, wherein for any given sequence of information

15 bits represented by the distorted complex-valued baseband signal:

the given sequence of information bits comprises a first group of information bits and a second group of information bits;

the distorted complex-valued baseband signal comprises a distorted complex-valued signal point that represents the first group of the given sequence of

20 information bits;

the reference baseband signal corresponding to the given sequence of information bits comprises a reference complex-valued signal point that represents the first group of the given sequence of information bits; and

the distorted complex-valued signal point is different from the reference

25 complex-valued signal point.

16.   The apparatus of claim 15, wherein the distorted complex-valued signal point differs from the reference complex-valued signal point by a predetermined complex-valued distortion amount.

17.   The apparatus of claim 15, wherein the logic that generates the resultant baseband signal by selectively generating either the non-distorted complex-valued baseband signal or the distorted complex-valued baseband signal comprises:

logic that generates a preliminary complex-valued baseband signal that comprises the reference complex-valued signal point; and

logic that modifies the preliminary complex-valued baseband signal to form the distorted complex-valued baseband signal, said logic that modifies comprising logic that adds a predetermined complex-valued distortion amount to the reference complex-valued signal point to generate the distorted complex-valued signal point.

18.   The apparatus of claim 17, further comprising logic that obtains the predetermined complex-valued distortion amount from a lookup table.

19.   The apparatus of claim 14, further comprising:

logic that generates, for any given sequence of information bits represented by the distorted complex-valued baseband signal, distorted amplitude and phase signals from the resultant baseband signal,

wherein at least one of the distorted amplitude and phase signals has a lower bandwidth than a corresponding bandwidth of reference amplitude and phase signals generated from the reference baseband signal corresponding to the given sequence of information bits.

20.   The apparatus of claim 14, wherein said apparatus is implemented in an M-PSK architecture or an M-QAM architecture.

21.   The apparatus of claim 14, wherein the logic that generates the radio frequency signal from the resultant baseband signal comprises:

        logic that generates polar phase and amplitude signals from the resultant baseband signal; and

5   logic that generates the radio frequency signal from the polar phase and amplitude signals.

22.   The apparatus of claim 14, wherein for any given sequence of information bits represented by the distorted complex-valued baseband signal:

        the given sequence of information bits comprises a first group of

10   information bits and a second group of information bits;

        the distorted complex-valued baseband signal comprises:

                a first complex-valued signal point that represents the first group of the given sequence of information bits;

                a second complex-valued signal point that represents the second

15   group of the given sequence of information bits; and

                one or more distorted trajectory complex-valued signal points in between the first complex-valued signal point and the second complex-valued signal point;

        the reference baseband signal corresponding to the given sequence of

20   information bits comprises:

                a first reference complex-valued signal point that represents the first group of information bits;

                a second reference complex-valued signal point that represents the second group of information bits; and

25   one or more complex-valued reference trajectory signal points in between the first reference complex-valued signal point and the second reference complex-valued signal point;

the first complex-valued signal point is equal to the first reference complex-valued signal point;

the second complex-valued signal point is equal to the second reference complex-valued signal point; and

5   at least one of the distorted trajectory complex-valued signal points is different from a corresponding one of the reference trajectory complex-valued signal points.

23.   The apparatus of claim 22, wherein the at least one of the distorted trajectory complex-valued signal points differs from the corresponding one of the

10   reference trajectory complex-valued signal points by a predetermined complex-valued distortion amount.

24.   The apparatus of claim 22, wherein the logic that generates the resultant baseband signal by selectively generating either the non-distorted complex-valued baseband signal or the distorted complex-valued baseband signal comprises logic

15   that selects a distorted trajectory comprising the at least one of the distorted trajectory complex-valued signal points from a lookup table.

25.   The apparatus of claim 22, wherein the logic that generates the distorted complex-valued baseband signal comprises:

logic that generates a preliminary complex-valued baseband signal that

20   comprises the first reference complex-valued signal point, the second reference complex-valued signal point, and at least one non-distorted trajectory complex-valued signal point; and

logic that modifies the preliminary complex-valued baseband signal, said logic that modifies comprising logic that adds a predetermined complex-valued

25   distortion amount to the at least one non-distorted trajectory complex-valued signal point to generate said at least one distorted trajectory complex-valued signal point.

26.   The apparatus of claim 25, further comprising logic that obtains the predetermined complex-valued distortion amount from a lookup table.